

HEALTH CARE FUNDING POLICIES FOR REDUCING FRAGMENTATION AND IMPROVING HEALTH OUTCOMES

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SUMMARY

The federal government's role in Canadian health-care funding policy has historically been a matter of writing cheques to the provinces and territories, leaving the nuts and bolts of funding policy for the provinces and territories to work out. Unfortunately, provinces and territories are stuck in policies from the past that have led to underperformance of their health care systems even as their health budgets continue to grow.

There are opportunities for the federal government to remove some of provinces' and territories' barriers to adopting new policies for funding health care. Episode-based payments could help break down barriers between and within sectors and providers. Episode-based payments create financial incentives by aligning care providers across settings, with physicians potentially engaging in financial risk-sharing partnerships. The American example, led by U.S. Medicare insurance, suggests that the use of episode-based payments can work for certain conditions even in siloed and fragmented settings.

Similarly, capitation-based funding models create incentives for organizations to work together across sectors. Reducing fragmentation includes primary care-centred organizations that span physical and mental health, and requires improvements to the intersection between primary and secondary care. These

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new-to-Canada models allocate a pre-set budget to provider organizations for health care based on each resident's health. The goal of these primary care-focused models is to align funding with resident's long-term health outcomes.

The federal government can use what leverage it has to remove provinces' and territories' barriers to funding policy reforms. The federal government can fund research into best practices, fund the development of new streams of data that better measure value from health care funding, and support ways to link social care data with health care data.

On a per capita basis, combined provincial, territorial and federal spending on health care places Canada among the highest of wealthiest countries in the world. Progress on the quadruple aim is elusive and ill-measured. Frustratingly, money does not appear to be the primary reason for underperformance in health care; the problem is likely due to how it is spent. Ontario is experimenting, albeit narrowly and slowly, with some new initiatives in episode-based funding, without causing ruptures in Canadian society.

Provincial and territorial funding policies involve costly trade-offs. COVID-induced pressures on health care may tip the balance of these trade-offs towards funding policies previously considered too dynamic. Even with the widespread aversion to use market forces that prevails in Canadian health care, the use of funding policies to shape new and different incentives or activities might work in Canada, too.

POLITIQUES DE FINANCEMENT DES SOINS DE SANTÉ POUR RÉDUIRE LA FRAGMENTATION ET AMÉLIORER LES RÉSULTATS EN MATIÈRE DE SANTÉ

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RÉSUMÉ

Le rôle du gouvernement fédéral dans la politique canadienne de financement des soins de santé a toujours consisté à émettre des chèques pour les provinces et les territoires, tout en les laissant s'arranger avec les détails de la politique de financement. Malheureusement, les provinces et les territoires se trouvent coincés avec des politiques du passé qui ont entraîné une sous-performance des systèmes de santé alors même que leurs budgets de santé continuent de croître.

Le gouvernement fédéral a la possibilité d'éliminer certains des obstacles à l'adoption de nouvelles politiques de financement des soins de santé. Les paiements groupés pourraient aider à éliminer les barrières parmi les secteurs et les fournisseurs de services. Ce type de paiement crée une incitation financière en alignant les fournisseurs de soins dans tous les types de contextes et où les médecins s'engagent dans des partenariats de partage des risques financiers. L'exemple des États-Unis, mené par l'assurance maladie Medicare, suggère que l'utilisation de paiements groupés peut fonctionner dans certaines conditions, même dans des environnements cloisonnés et fragmentés.

De même, les modèles de financement par capitation incitent les organisations à travailler ensemble dans tous les secteurs. La réduction de la fragmentation inclut les organisations axées sur les soins primaires qui couvrent la santé physique et mentale, et nécessite des améliorations à l'intersection entre les soins primaires et secondaires. Ces modèles nouveaux au Canada allouent un budget préétabli aux organismes fournisseurs de soins de santé en fonction de l'état de santé de chaque résident. L'objectif de ces modèles axés sur les soins primaires est d'aligner le financement sur les résultats en matière de santé à long terme pour les résidents.

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Le gouvernement fédéral peut utiliser son influence pour éliminer les obstacles au financement des réformes politiques dans les provinces et les territoires. Le gouvernement fédéral peut financer la recherche sur les pratiques exemplaires, financer le développement de nouveaux flux de données qui mesurent mieux la valeur du financement et soutenir les moyens de relier les données sur les soins sociaux aux données sur les soins de santé.

L'ensemble des dépenses en santé provinciales, territoriales et fédérales par habitant placent le Canada parmi les pays les plus riches du monde. Or, les progrès envers le quadruple objectif demeurent insaisissables et mal mesurés. Malheureusement, l'argent ne semble pas être la principale raison de la sous-performance des soins de santé; le problème est probablement dû à la façon dont il est dépensé. L'Ontario fait l'expérience, quoique de manière réduite et lente, de nouvelles initiatives de financement groupé, sans provoquer de ruptures dans la société canadienne.

Les politiques de financement provinciales et territoriales entraînent des compromis coûteux. Les pressions imposées par la COVID-19 sur les soins de santé pourraient faire pencher la balance vers des politiques de financement auparavant considérées comme trop dynamiques. Même avec l'aversion généralisée à utiliser les forces du marché qui prévaut dans les soins de santé au Canada, l'utilisation de politiques de financement pour façonner des incitations ou des activités nouvelles et différentes pourrait également fonctionner au Canada.

GENERAL INTRODUCTION

In 2017, the federal government took a new approach to that taken in the early 2000s to move forward on health system priorities. The government worked with the provinces and territories (PTs) to identify shared health priorities for federal investments, develop common areas of action within these priorities through an FPT framework, and then negotiated bilateral agreements with each PT. COVID-19 has highlighted the need for resilient health care systems that will continue meet the needs of Canadians today and in the future.

It is in this context that in April 2021, the School of Public Policy convened a group of health policy experts to develop research papers on various aspects of the evolution of health care in consultation with Health Canada. These experts have a diverse range of perspectives on issues related to Canadian health systems. Health Canada was consulted on the list of topics, but the orientation of each paper, the methodology, as well as the substance of the recommendations were left entirely to the discretion of the authors.

We are proud to share the result of this process. Each paper in this series of eight was subject to the intense scrutiny, and discussed extensively following detailed roundtable presentations. Two eminent health policy experts were also asked to conduct a careful double-blind review of the papers, with a special focus on rigor, readability, and relevance. We believe these policy briefs offer a rare combination of original thinking, deep subject expertise, and technical feasibility: a perfect balance between the very practical needs of the end users of the research and the independent and innovative spirit that pervades all the work originating from the School of Public Policy.

INTRODUCTION

This is a policy paper commissioned by Health Canada in 2021 and its goal is to articulate to Health Canada a number of health care funding policies that aim to improve cost-efficiency, effectiveness and equity of health care delivery in provinces and territories.

In this policy paper, “funding policy” refers to the constellation of federal, provincial and territorial laws, regulations and policies used to govern the dispersal of funds – and financial incentives – to regions, health care organizations and individual providers for the provision of publicly funded health care services, products and devices. The term “funding policy” does not refer to the policies associated with raising funds to pay for health care, often referred to as “health care financing” (Deber 2003). From this broad interpretation, funding policy intersects with many facets of health care delivery, such as the roles of regulated professions, technology adoption, capital planning and health outcomes.

To achieve its goal, this paper has two aims: 1) to present a number of options regarding health care funding policies by drawing from my experience and research in the Canadian and international context; and 2) to identify opportunities for the federal government to positively influence health care delivery by “nudging” the provinces and territories to adopt new health care funding policies by removing important barriers.

This policy paper is founded on three critical assumptions. First, it assumes that the federal, provincial and territorial governments seek to develop and maintain high-performing health care delivery networks that steadily improve population health outcomes. Second, in recognizing that there is no silver bullet that will “fix” the problem of improving value from health care, this policy paper also assumes that governments at all levels already recognize the most significant “problems” in their delivery networks. That is, the delivery of health care is fragmented and silo-based, meaning that health care is delivered by independent organizations or individual providers, whose accountabilities for cost-efficiency and effectiveness are disconnected from one another (Commission on the Reform of Ontario’s Public Services 2012; Ravenscroft 2005). Finally, it assumes that provincial and territorial governments may seek to address known problems by implementing new funding policies that strive to improve the value of their health care spending if the “price” of reform is not too high among governments’ constituents.

The scope of this paper is limited to discussing a number of health care funding policies that I consider to be among the most likely to be successful at reducing fragmentation between sectors, changing incentives between and within sectors and providers, and taking advantage of the visible opportunities for reducing disparities in health outcomes among different population subgroups.

The scope of this paper does not extend to exploring the entirety of relevant international scientific literature and projecting the findings onto provincial and territorial health care delivery networks. Only where evidence or context is considered important are scientific references provided; additional references can be sought from

the author. The scope of the paper also excludes consideration of privately funded health care services and products as substitutions, and assumes that the existing parameters of the Canada Health Act remain intact; accordingly, this paper has some focus on publicly funded health care, though not exclusively so.

This policy paper begins with a brief background outlining the utility of funding policies to affect the cost-efficiency, effectiveness and equity of health care delivered in provinces and territories. It then discusses two complementary policy approaches that show promise to improve value from health care funding. It then pinpoints in some depth several key issues associated with each policy's potential implementation. The paper concludes by considering options for the federal government to support funding policy reforms in provinces and territories.

CANADIAN CONTEXT

Provinces and territories have shown a willingness to spend on health care. On a per capita basis, combined provincial, territorial and federal spending on health care places Canada among the highest of wealthiest countries in the world (Davis et al. 2014; Schneider et al. 2021) However, there is substantial evidence demonstrating that provinces and territories can improve the value from their health care spending by improving effectiveness, cost-efficiency, accessibility and health outcomes (Schneider et al. 2021).

Since the amount of public money spent on health care doesn't appear to be the primary cause of poor performance, the way in which the money is spent may be of critical importance to the value of health care received by provinces and territories.

As architects of their own regulations and policies, provinces and territories can change their decidedly hands-off approach to health care funding policies while remaining within the parameters of the Canada Health Act. With some modest exceptions in Ontario, funding policies have largely been untouched by successive provincial and territorial government policy-makers of all political stripes. Hospitals are a case in point: policy-makers have decried spending growth in the hospital sector as a threat to provincial budgets, even though hospital funding policies have largely been untouched for decades.

Unpacking the incentives underlying health care funding policies is not new to the Canadian health policy community; policies and financial incentives for organizations and individual health care providers exist, and their policy trade-offs are mostly well understood (Deber 2004; Kirby 2001; Marchildon 2004; Sutherland and Crump 2013). For instance, global budgets, or a single lump sum, are used as a hospital funding policy in many provinces. The result has been signals to hospital boards and regions that slowing cost growth has been governments' priority, and that its relative importance exceeds elective surgery wait times, experiences of care, or quality. The policy trade-offs in other sectors are equally studied; for example, fee-for-service remuneration policies for physician services signals that provinces and territories value the volume of physicians' services over other objectives.

An emerging theme in health care funding policy is the intersection of sector-specific funding policies on patient care. For instance, bed-day funding for long-term care and global budgets for hospitals result in few financial incentives for long-term care or hospitals to “pull” the right patients into, or to “push” them out from hospital-based care when it is safe and effective to do so. Provinces see an important manifestation of the intersection of long-term care and hospital funding policy in the inappropriately high prevalence of alternative level care (ALC), whose spending exceeds \$1 billion each year (Walker et al. 2009; Wong et al. 2020).

Ontario’s 2012 Drummond report unambiguously articulated that “What we have is a series of disjointed services in many silos” (Commission on the Reform of Ontario’s Public Services 2012). This observation is equally true today. Sector-specific funding policies are a significant contributor to fragmentation between sectors and a barrier to improving health-sector performance and population health outcomes (Smith et al. 2020). The consequences of sector-specific funding policies are experienced by patients as a lack of co-ordination between different settings of care and health care providers.

There are benefits to Canadian health care policy-makers to closely examining health care funding policies in other countries that create shared financial incentives for different sectors, settings and providers. There are relevant policies among countries that have universal (or mixed) publicly funded health care, including Australia, England, Denmark, Germany and the United States, where policies targeting avoidable care and better health outcomes have been instituted (Independent Hospital Pricing Authority 2021; Kristensen et al. 2015; Zuckerman et al. 2016). There is also much to be learned from the Netherlands and the United States, where they are experimenting with funding policies that align financial incentives across multiple sectors and providers of health care (Chen et al. 2015; de Bakker et al. 2012; Drewes et al. 2017; Nyweide et al. 2015; Struijs and Baan 2011).

Directly importing health care funding policies from other countries or health systems into Canada will be difficult, unless the policies are adapted to reflect attributes of provincial and territorial health care delivery structures. In other words, new health care funding policies will have to reflect the primacy of hospital and physician care embedded within the Canada Health Act; provincial and territorial prioritization of physical health over mental health; and some provinces’ regionalization of health care delivery. Some provinces’ ministries of health have actively developed funding policies (e.g., Ontario’s quality-based procedures and bundled payments) (Baxter et al. 2016; Embuldeniya et al. 2018), whereas other provinces have not engaged in funding policy reforms (e.g., British Columbia and Alberta).

BUILDING FROM WHERE PROVINCES AND TERRITORIES ARE TODAY

There is strong evidence demonstrating positive associations between high performance in health care systems and accessible and effective primary care (Haj-Ali and Hutchison 2017; Starfield 1998, 1994). Following this evidence and international trends, provinces and territories have invested in strengthening primary care (Aggarwal

and Williams 2019; Hutchison et al. 2011; Martin-Misener et al. 2019), a theme reinforced with federal spending in the 2003 First Ministers Health Accord targeting team-based primary care, and the earlier Primary Health Care Transition Fund (Hutchison et al. 2011; Motiwala et al. 2005).

The achievements of the past investments in primary care are unclear; government objectives of improving access, patient experience and chronic disease management in Canada continue to lag other countries (Canadian Institute for Health Information (CIHI) 2018; Schneider et al. 2021). Only Ontario made substantive changes to primary care funding policy, with widespread use of capitation- and salary-based physician remuneration options designed to address problems with access and medically complex patients (Glazier et al. 2019; Marchildon and Hutchison 2016).

Taking a step back, a striking difference between Canada's health care delivery networks and health systems in other countries is the lack of alignment of physician remuneration policies with other sectors and providers. To date, instances of alignment between physician remuneration policies and the needs of communities or regionalized health care delivery networks are rare.

To improve value from health care spending, it will be important to align physicians' services more closely with provincial and territorial (or regional) delivery networks (Strumpf 2020). Through their decisions regarding admissions, procedures, referral patterns, diagnostics, discharge orders and prescriptions, physicians are estimated to be responsible for decisions that drive up to 80 per cent of health care utilization and spending (Crosson 2009; Fred 2016). Changing the financial incentives for physicians is important, although it need not signal a push for an end to fee-for-service; there are settings in which the volume of physician care is the most valuable objective — moreover, fee-for-service policies can be nested within other funding policies.

MOVING FORWARD WITH NEW FUNDING POLICIES

In other countries, there are relevant examples of funding policies used to create financial incentives for differing objectives. These policies range from the micro level, which may include “discounting” or “clawing back” hospital-based payments associated with related re-admissions (related re-admissions are those that are causally linked with an earlier hospitalization), to the macro level, such as “shared savings” models. In the latter, reductions in health care spending below growth targets could be shared between insurers and health care providers (McWilliams et al. 2018; Ouayogodé et al. 2017).

One of the most visible opportunities to improve value from health care spending in Canada is to design and implement funding policies that create or align financial incentives between sectors and providers within provincial and territorial health care delivery networks. Appropriately crafted policies can create financial incentives to reduce fragmentation between sectors, possibly change health care utilization patterns and spending between and within sectors and providers, and target disparities in health outcomes among population subgroups or communities.

To achieve this policy paper's goal of presenting funding policy options, two integrative policy options are proposed as options to target fragmentation between sectors and silo-based health care delivery:

The **first** approach is to develop funding policies that create financial incentives for health care organizations and providers to reduce fragmentation between sectors and ineffective or wasteful care. This incremental policy would be most suitable for discrete episodes of treatment and where treatment often spans settings and providers. Orthopaedic examples include hip, knee, shoulder or ankle replacements, where the episode spans the settings of specialist consult, hospital and rehabilitation, and providers include surgeons, anesthesiologists and physical therapists (among others in the hospital).

The **second** approach is to develop funding policies that create financial incentives for primary care-centred organizations and their providers to focus on the health of populations or communities, matching health services with patient treatment preferences and promoting disease prevention, while commensurately targeting ineffective care and fragmentation between sectors. This approach would apply capitated-type funding models, which means that health care organizations or providers receive a pre-set amount of funding for each patient whose physical and mental health services they are responsible for.

Capitated and population-based funding models are commonplace in a number of countries and mixed insurance models. While the suggested policies are incremental from an international perspective, these changes would be transformational in provinces and territories, changing the nexus of financial incentives from volume of care to value of care, and creating new organizations capable or accepting clinical and insurance risk.

The first approach is proposed as an immediate option for provinces and territories to pursue with their health care organizations and providers. Moreover, the first approach limits the clinical risk to ministries of health as they initiate new cross-silo contracting mechanisms, analytics and clinical and financial performance evaluation models. In contrast, the second approach will take longer to develop, owing to its inherent complexity, although it is built from the lessons learned from the first approach.

The rationale for the two-initiative approach is to provide a runway for provincial and territorial ministries of health to design, implement and monitor cross-sector policies that align financial incentives between sectors without having to move too far, too quickly, from their current capacities and capabilities. This two-initiative approach likewise gives provider organizations and individual providers time to transition their clinical activities to new financial incentives. The two approaches are not at odds with one another, since they align financial incentives in the same direction, although at different levels (meso and micro versus macro).

The premise of each of the two policy options is for provinces and territories to create financial incentives for between-sector co-operation and alignment of clinical activities. While incremental from an international perspective, these two policies are a significant

departure from current sector-based funding policies used in provinces and territories in Canada. Provincial and territorial governments and health care organizations alike will have to forge new contracting relationships, create new organizations, integrate clinical care and information flow across sectors, create financial risk-sharing models, and monitor clinical outcomes and performance at the level of the individual.

ADDING GRANULARITY: PAYMENTS FOR INTEGRATED EPISODIC CARE

Funding policies for episodes of care are designed to create a shared financial incentive for health care organizations and providers included in the episode's services. Skimping on care, or reducing effective utilization, is not deemed an effective strategy for episodes of care, since skimping heightens the risk of expensive institution-based care (i.e., re-admissions). To accelerate episode-based payment policies, the *federal government could provide financial, technological and analytic support for provincial and territorial adoption of episode-based payment policies that cross sectors, settings and health care organizations and providers.*

Under the rubric of “bundled payments,” several countries have adopted funding policies where there is a single payment for an episode of care. However, there are many types of episode-based payment policies. Examples have defined episodes by time (e.g., a year of care) or index event (e.g., a hospitalization). So standardized parameters of episodes of care, in some form, could support adoption. For context, in the U.S., with leadership from the Medicare insurance program, episode-based payment for joint replacement (comprehensive care for joint replacement, or CJR) is now mandatory in 34 major metropolitan areas (Thirukumaran and Rosenthal 2021). That experience has shown that bundled payments have been most popular among providers for episodic or procedure-based conditions, such as hip or knee replacements, where providers have found opportunities for low-hanging fruit, substituting care between sectors.

The adoption of bundled payments in the U.S. has been slower for chronic conditions, such as congestive heart failure or chronic obstructive pulmonary disease. Where episode-based payments have been implemented for chronic and acute conditions, the international experience on the effectiveness of episode-based payments in slowing cost growth is minimal.

However, in the U.S., the 90-day Medicare CJR bundles are instructive to Canadian policy-makers for the elements that have been included as price adjusters: a patient's clinical complexity, age and a proxy for socio-economic status (namely, dual eligibility, defined as being eligible for Medicare and Medicaid insurance). This development indicates that Canadian work is needed to establish adjusters for vulnerable or marginalized residents.

There is reason to be optimistic regarding the opportunity for episode-based payments to reduce fragmentation and integration of care in Canada. Not only do episode-based payments formalize financial and clinical relationships between sectors and providers of

care, but there is evidence that substitutions between sectors are available in provinces (Hellsten et al. 2016; Sutherland et al. 2012). Moreover, episode-based payments have already been “socialized” in the Canadian context, since they have been (narrowly) implemented in Ontario for a small number of conditions (Embuldeniya et al. 2018).

In the provincial or territorial context, an integral component of episode-based payments should be physician leadership and involvement, possibly sharing in financial risk. Due to lack of capital, it is unlikely that physicians’ practices will be able to be the fundholder or accept downside financial risk. As a result, the hospital is likely the sole entity sufficiently capitalized or experienced enough to write contracts, hold financial risk and monitor contract performance. However, there is the risk that episode-based payments will appear to be too “hospital-centric,” and many non-clinical aspects of the episode of care will have to be considered in the payment design, such as contracting, decisions-support and finance (Steenhuis et al. 2020).

Although very desirable, episodic payment policy may not be successful at reducing cost growth or cost-effectiveness. However, given the lack of funding policy innovation in provinces and territories, the best indicator of success may be between-sector financial partnerships that reduce fragmentation and reduce ineffective care. The definition of success for episodic payments may include the following attributes:

1. Provincial and territorial governments’ ministries of health craft episode-based funding policies that traverse sectors for common acute conditions.
2. Provinces and territories determine a transition model for integrating episode-based payments into existing funding envelopes, including “carve-outs.”
3. Health care organizations and providers strike contracts between themselves specifying contributions and financial arrangements. These contracts are made available to the respective province or territory.
4. Contemporaneous administrative data (e.g., physician billings, filled prescriptions and hospital data) are made available to health care organizations and providers included in the episodic payments.
5. Physicians are included in risk-sharing agreements.
6. Patients’ health outcomes and costs are measured and reported in a standardized manner.

From the perspective of the federal government, there are key activities that can support provinces and territories in their willingness or ability to adopt episode-based payment policies. These activities are framed to denote barriers or challenges to developing episode-based payment policies and possible federal actions in response. These challenges and federal responses include:

- **Challenge: There is uncertainty regarding which inpatient and outpatient conditions and procedures are most suitable for episode-based payments.**
- *Federal Response:* The federal government could generate research to advise provinces and territories on the selection of conditions and procedures that

are most suitably time-defined and episodic conditions. This work leverages comprehensive data holdings that already exist.

- **Challenge: Overcoming barriers to physician leadership of episode-based payments.**
- *Federal Response:* The federal government could use a more hands-off, or “points of light” approach. Using this approach, innovative partnerships in provinces and territories between provider organizations and individual providers, such as physicians, could be identified. Then, federal data holdings, analytics and strategic advice could be used to support provinces’ and territories’ episode-based initiatives.

- **Challenge: There is a need to link and aggregate sector-specific administrative and clinical data to advise on parameters for episode-based payments.**
- *Federal Response:* It is possible for the federal government to fund these activities directly, provided there is access to record-level data residing at the Canadian Institute for Health Information (equivalently residing at ministries of health). The activities could be independent of Health Canada and trusted to an existing pan-Canadian health organization (such as the Canadian Institute for Health Information or Healthcare Excellence Canada) or a new dedicated funding policy-oriented agency. One agency that may serve as an example is the Independent Hospital Pricing Authority (IHPA), a federally funded agency in Australia that determines parameters and non-binding prices for publicly funded hospital-based care in Australian states. The tasks would include:
 1. Defining inclusion/exclusion parameters of provinces’ episodic payments.
 2. Determining risk-adjustment parameters, preferably including socio-economic indicators.
 3. Developing processes for determining episodes’ risk-adjusted costs and prices.
 4. Publishing summary statistics of episodic payments and sector-specific participation and health care utilization, such as with hospital discharge data.

- **Challenge: The value of episode-based payments should be measured.**
- *Federal Response:* It is possible for the federal government to fund the establishment by provinces and territories of minimum data sets and the standardized collection and reporting of:
 1. Health status and condition-specific patient-reported outcomes, pre- and post-intervention for (planned) episodes of care.
 2. Patient cost information from different sectors of care (such as is being collected from a sample of hospitals in Ontario, Quebec and Alberta, though expanded to other settings, possibly including non-insured service settings).

3. The value of episodic care at a population and subgroup level, as measured and reported on by an independent agency, such as IHPA (as described above).
- **Challenge: Important aspects of physical and mental health are privately provided and insured. Irrespective of the payer, many physical and mental health care services may be important to health outcomes and are currently unobservable.**
 - *Federal Response:* Using methods previously employed by the Canadian Institute for Health Information to establish minimum data sets and reporting requirements, the federal government could fund the establishment of minimum data sets and reporting requirements for non-insured physical and mental health care providers that are elements of episodic care (e.g., physiotherapies, counselling).
 - **Challenge: No province or territory has a template for contracts between participants of the episodic payments (i.e., public and/or private health care organizations and individual providers).**
 - *Federal Response:* The federal government could develop contract templates to simplify contracting between participants, or fund similar activities in provinces and territories.
 - **Challenge: No province or territory has a mechanism for including physicians as partners in episodic payments — either for fundholding or participating in risk sharing.**
 - *Federal Response:* It is unclear how the federal government could address this important aspect of integrating care, although provincial and territorial efforts to negotiate inclusion of physicians in episodic payments should be supported.

ADDING GRANULARITY: RISK-ADJUSTED CAPITATED FUNDING MODEL POLICY FOR NETWORKS OF PRIMARY HEALTH CARE PROVIDERS

To accelerate population-based primary care-centred funding policies, the *federal government could provide financial, technological and analytic support for provinces and territories adopting capitation-type funding models based in primary care.* Appropriately risk-adjusted capitated (or per-person) funding policies create financial incentives for health care organizations and providers to act in co-ordination to manage chronic conditions; integrate physical and mental health care services across sectors, settings and providers; and avoid excess utilization. A corollary of these policies is that health care organizations and providers have financial incentives to maintain or improve their population's health, including through health promotion and prevention efforts. These behaviours and outcomes are desirable from the perspective of a public payer.

Capitation-based or per-person-based models are used in several countries, and managed care is of increasing prevalence in the United States. This means that health care organizations or providers are paid a fixed fee (usually per year) for each patient's health services that they are responsible for. An example includes the oft-imitated Kaiser Permanente in the U.S., where capitated-type models are displacing fee-for-service policies in some settings, even though the evidence regarding the superiority of capitated-type models over sector-based policies is not yet clear (Burns and Pauly 2018) — possibly due to the measure of success being used, or their inherent organizational complexity.

For capitated primary care-centred funding models to be effective in provinces or territories, the policies should address several important characteristics beyond those of group practices. First, there should be an organizational structure that coordinates the provider participants' activities and often serves as the "fundholder," a term describing the organization(s) receiving and dispersing funding among the network's participants and non-participants. Then, there should be an enumeration of the funding model's participating health care organizations and providers (into a "network") spanning sectors, settings and provider types. Agreements between network participants should specify the contributions of each member of the network (e.g., clinical services or structures). Finally, there should be transparent methods for identifying the residents whose health care the network is responsible for funding.

As capitated-type models are growing in popularity — given Ontario's concurrent development of Ontario Health Teams — it is conceivable that risk-adjusted capitated funding policies based on networks of primary care providers are feasible in Canada (Ontario Ministry of Health 2019). However, while slowing cost growth through capitated-type models may be achievable, other objectives may be equally important to provincial and territorial governments, including improvement in population health outcomes. To this end, alternative definitions of success may include:

1. Provincial and territorial governments' ministries of health craft capitated-type funding policies for "networks" of health care organizations and providers.
2. Provincial and territorial governments' ministries of health craft policies that define primary care networks as the organizing entities of capitated-type funding policies.
3. Provincial and territorial governments' ministries of health and primary care provider networks determine the scope of services included in networks ("what's in and what's out") and determine organizational characteristics.
4. Primary care providers participate in risk-sharing agreements regarding their capitated population's spending.
5. Provinces and territories determine a transition model for adopting capitated-type funding models from existing sector-based funding envelopes.
6. Contemporaneous administrative data are made available to network participants.
7. Health outcomes are measured and reported in a standardized manner.

Capitated-funding policies build from the preceding integrative funding policies, although the focus of capitated-funding policies on primary care will give rise to different challenges. Among them: *organization-building activities will be needed to develop multidisciplinary and multi-organization networks; finding the balance of inducements for primary care to assume leadership; and determining whether primary care becomes a fundholder of “networks,” purchasing or funding health care from other sectors (or does the relevant health ministry retain the role of fundholder and reconcile network spending ex post?)*. These are monumental challenges to contemplate, especially when one considers that there is no clear evidence regarding the intersection of these complex issues.

Moreover, research emanating from the U.S. is showing significant challenges to overcoming structural barriers for improving health among vulnerable subgroups. There is little by way of health systems research to establish whether the same outcomes would be experienced in provinces or territories, although it should be expected that new models of health care delivery will similarly struggle with providing culturally appropriate health care or lower barriers to vulnerable subgroups (e.g., homeless patients or those with severe mental illness).

From the perspective of the federal government, there are activities that can support the eventual adoption by provinces and territories of primary care-centred capitated-type funding model policies. These activities are framed to denote barriers or challenges to developing capitated-type models and possible federal actions in response. These challenges and federal responses include:

- **Challenge: How do provinces or territories build organizations that can realize the potential of primary care-focused delivery networks?**
- *Federal Response:* There is a dearth of evidence from the domain of organizational behaviour applicable to the building of new health care entities in Canada. The federal government could directly fund health system research to inform this area. Otherwise, the federal government may be limited to identifying emerging partnerships, such as Ontario Health Teams in Ontario, and providing these new entities, or their respective provinces and territories, with funding for data, analytics and strategic advice.

- **Challenge: No province or territory has a mechanism for including physicians, as financial partners or fundholders, in capitated funding models.**
- *Federal Response:* It is unclear how the federal government could address this important aspect of population-based funding policy, though provincial and territorial efforts to negotiate the inclusion of physicians in capitated models should be supported. The federal government could support provincial and territorial efforts to include physicians in capitated models through the following:
 - Simplify contracting between health care provider types in capitated-funding models.

- Develop governance and leadership models for primary care-centred capitated models.
 - Develop protocols and methods for health care providers to view social services data.
 - Streamline the purchase by primary care-centred networks of non-publicly insured physical and mental health services (e.g., physiotherapy, psychotherapy and dietetics).
- **Challenge: Overcoming physicians' barriers to identifying and committing to new integrated networks and shifting health care towards primary care.**
 - *Federal Response:* The federal government is ill-positioned to induce physicians' commitment to or engagement with new capitated-type organizational entities (integrated networks or health systems). The federal government may be limited to identifying developing partnerships and supporting them with data, analytics and strategic advice. However, efforts to win over physicians are needed to improve the likelihood of the initiatives' short- and long-term impact and success.
 - **Challenge: There is uncertainty regarding the attributes of primary care practices most likely to be associated with meeting indicators of success or sustainability. For example: Is a network of 50 primary care physicians (and other types of organizations) sufficient to have a meaningful or measurable effect on health or spending? Are networks of primary care physicians in rural areas more or less likely to be successful in improving resident's health? How should specialty care be included?**
 - *Federal Response:* The federal government can conduct or fund targeted health systems research to determine the parameters of networks of primary care physicians that would be most suitable for successfully realizing capitated funding models.
 - *Federal Response:* Methods for attributing patients or residents to primary care physician practices are developed and referred to as "physician attribution" methods. The federal government can provide provinces and territories with parameters or algorithms for applying physician attribution models.
 - *Federal Response:* The federal government can advise and fund expanded data collection and data linkage (e.g., immigrant status, homelessness and culturally appropriate information).
 - **Challenges: For networks, their residents' sector-specific administrative data should be linked with population-based data sets.**
 - *Federal Response:* The federal government can fund (or delegate) these data-driven activities, provided there is access to linkable person- and encounter-level data. The tasks include:
 1. Identifying patients attributed to primary care-centred provider networks.

2. Determining a risk-adjustment algorithm, including socio-economic indicators.
 3. Advising on capitated funding amounts, reflecting vulnerability or historically underserved subgroups.
 4. Advising on location-specific payment supplements that reflect existing local structures (e.g., rurality).
 5. Identifying indicators for evidence-based services for reporting performance.
 6. Publishing summary statistics of the health and health care utilization of residents within primary care networks.
- **Challenge: The value of capitated-type funding policies should be measured.**
 - *Federal Response:* It is possible for the federal government to fund the establishment by provinces and territories of minimum data sets, and the standardized collection and reporting of:
 1. Health status measured with patient-reported outcomes.
 2. Patient treatment preferences.
 3. Information regarding utilization and spending on non-insured health services, products or devices.

DISCUSSION AND CONCLUSIONS

The federal government should not be too hard on itself regarding the state of health care funding policy in Canada. Other than for federally insured groups, the federal government is not responsible for developing, implementing or monitoring funding policy for health care organizations or individual providers. That purview rests solely with the provinces and territories. Nonetheless, the federal government has not taken it upon itself to demonstrate leadership by meaningfully addressing barriers to funding policy reform faced by provinces and territories. To bridge the federal government's strengths with provincial and territorial mandates for health care delivery, a number of specific recommendations are offered to the federal government for its consideration.

First, the federal government could set a flag in the ground and take a leadership role in supporting provinces and territories in establishing and promulgating new funding policies that create incentives to integrate providers and settings. Immediate activity on episode-based payments could include: defining episodes of care, linking data, establishing non-binding payment amounts, and publishing utilization measures. Longer-term activity from the federal government could fold in new streams of data to measure value, such as patient-reported outcomes and cost information.

This policy paper's second recommendation to the federal government is that substantive and meaningful funding policy reform should not consist of simply paying organizations or individual providers differently. For funding policy reforms to be successful at reducing fragmentation and improving population health outcomes,

there needs to be commensurate advancements and investments in: understanding how to build new entities that span providers, settings and sectors of health care; understanding how to balance inducements for physician leadership of new entities; establishing national standards for new streams of data and reporting (e.g., mental health services); analyses of linked data; determination of episode risk-adjusted prices; engagement with physicians on new payment models; new regulations regarding provider payment policies; and active measurement of funding policy effectiveness.

Even though these initiatives could take years, they are not showstoppers — the implementation of integrative funding policies could proceed, as has been demonstrated by Ontario's energy in developing and implementing new funding policies (quality-based procedures, bundled payments and Ontario Health Teams). The federal government could fund an independent agency to report on the value of each province's and territory's health care funding and performance, entering a policy area where pan-Canadian organizations have not been willing to tread.

Third, this paper recommends that deliberate federal leadership is needed to establish and grow new streams of data critical to measuring value — including patient-reported outcomes and non-insured health services. As the federal government has funded the establishment of minimum data sets and reporting in other settings (for hospital separations, for example), these activities should be viewed as incremental from a technical perspective, although they are ground-breaking from the perspective of measuring health and population outcomes.

Fourth, the federal government could lead efforts to link social care data with health care data in federally insured populations. There are policy and regulatory barriers to linking health care and social care data, but with research showing associations between health and social environment, leveraging linked health and social data is needed to identify opportunities for future interventions.

With its focus on federal involvement in funding policy, this text may be a disappointment to some in provinces and territories seeking immediate delivery system reforms led by funding policy. Moreover, insofar as these policies appear incremental from an international perspective — in light of the evolution of funding policy in other countries — given the decades of stasis, the proposed funding policies are significant departures from existing financial incentives in Canada, but their “costs” may be relatively palatable as provinces and territories exit the pandemic.

The policies and specific recommendations of this policy paper should provide the reader with some level of confidence in their feasibility. The policies are not too dissimilar from the arc of payment reform in the United States over the past two decades, led by Medicare, with incremental transitions from fee-for-service to pay-for-performance, to partial risk-bearing models, to the current development of value-based purchasing initiatives. In Canada, Ontario is clearly leading the way, with modest implementation of new funding policies. However, there is no clear Canadian champion advocating for change in funding policy that is analogous to the leadership shown by Medicare in the U.S. in attempting to wring more value from health care spending.

Finally, for provinces and territories, spending on health care may not be the best indicator of positive progress of funding policy reforms. Instead, it may be valuable to achieve improvements in other areas: erosion of the silos between sectors or settings, building new entities capable of population health management, leadership and participation of physicians in risk-bearing contracts, and meaningful improvement of health status within vulnerable or marginalized groups. If these policies should succeed over the long run, the changes in funding policies will be transformational to Canadian health care.

REFERENCES

- Aggarwal, M. and A.P. Williams. 2019. "Tinkering at the margins: Evaluating the pace and direction of primary care reform in Ontario, Canada." *BMC Fam. Pract.* 20, 1-14. <https://doi.org/10.1186/s12875-019-1014-8>.
- Baxter, P., L. Cleghorn, K. Alvarado, G. Cummings, D. Kennedy, C. Mckey and K. Pfaff. 2016. "Quality-based procedures in Ontario: Exploring health care leaders' responses." *J. Nurs. Manag.* 24, 50-58. <https://doi.org/10.1111/jonm.12271>.
- Burns, L.R. and M. V. Pauly. 2018. "Transformation of the Health Care Industry: Curb Your Enthusiasm?" *Milbank Q.* 96, 57-109. <https://doi.org/https://doi.org/10.1111/1468-0009.12312>.
- Canadian Institute for Health Information (CIHI). 2018. "How Canada Compares: Results From The Commonwealth Fund's 2017 International Health Policy Survey of Seniors." Ottawa.
- Chen, L.M., E. Meara and J.D. Birkmeyer. 2015. "Medicare's bundled payments for care improvement initiative: Expanding enrollment suggests potential for large impact." *Am. J. Manag. Care* 21, 814-820.
- Commission on the Reform of Ontario's Public Services, 2012. 2012. Report. Queen's Printer for Ontario. Toronto, Canada.
- Crosson, F.J. 2009. "Change the microenvironment. Delivery system reform essential to control costs." *Mod Heal.* 39, 20-21.
- Davis, K., K. Stremikis, D. Squires and C. Schoen. 2014. *Mirror, Mirror on the Wall*. The Commonwealth Fund. New York.
- de Bakker, D.H., J.N. Struijs, C.B. Baan, J. Raams, J.-E. de Wildt, H.J.M Vrijhoef and F.T. Schut. 2012. "Early results from adoption of bundled payment for diabetes care in the Netherlands show improvement in care coordination." *Health Aff. (Millwood)* 31, 426-33.
- Deber, R.B. 2003. "Health care reform: lessons from Canada." *Am. J. Public Health* 93, 20-24. <https://doi.org/10.2105/ajph.93.1.20>.
- Deber, R.B. 2004. "Delivering Health Care: Public, Not-for-Profit, or Private?" In G.P Marchildon, P-G Forest, T. McIntosh (Eds.). *The Fiscal Sustainability of Health Care in Canada*. University of Toronto Press. Toronto.
- Drewes, H.W., J.N. Struijs and C.A. Baan. 2017. "How the Netherlands Is Integrating Health and Community Services." *NEJM Catal.* February 5.
- Embuldeniya, G., M. Kirst, W. Walker and W.P. Wodchis. 2018. "The Generation of Integration: The Early Experience of Implementing Bundled Care in Ontario, Canada." *Milbank Q.* 96, 782-813. <https://doi.org/10.1111/1468-0009.12357>.
- Fred, H.L. 2016. "Cutting the Cost of Health Care: The Physician's Role." *Tex Hear. Inst J* 43, 13-15. <https://doi.org/10.14503/THIJ-15-5646>.

- Glazier, R.H., M.E Green, E. Frymire, A. Kopp, W. Hogg, K. Premji and T. Kiran. 2019. "Do incentive payments reward the wrong providers? A study of primary care reform in Ontario, Canada." *Health Aff.* 38, 624-632. <https://doi.org/10.1377/hlthaff.2018.05272>.
- Haj-Ali, W. and B. Hutchison. 2017. "Establishing a Primary care Performance Measurement Framework for Ontario." *Healthc. Policy* 12, 67.
- Hellsten, E., S. Chu, R.T. Crump, K. Yu and J.M. Sutherland. 2016. "New pricing approaches for bundled payments: Leveraging clinical standards and regional variations to target avoidable utilization." *Health Policy* (New York). 120. <https://doi.org/10.1016/j.healthpol.2016.02.004>.
- Hutchison, B., J.F. Levesque, E. Strumpf and N. Coyle. 2011. "Primary health care in Canada: Systems in motion." *Milbank Q.* 89, 256-288. <https://doi.org/10.1111/j.1468-0009.2011.00628.x>.
- Independent Hospital Pricing Authority, 2021. National Pricing Model 2021-22: Technical Specifications. Sydney.
- Kirby, M.L. (Chair). 2001. *The health of Canadians — The federal role. Volume one: The story so far*. Ottawa.
- Kristensen, S.R., M. Bech and W. Quentin. 2015. "A roadmap for comparing readmission policies with application to Denmark, England, Germany and the United States." *Health Policy* (New York). 119, 264-273. <https://doi.org/https://doi.org/10.1016/j.healthpol.2014.12.009>.
- Marchildon, G.P. 2004. "The public/private debate in the funding, administration and delivery of healthcare in Canada." *Healthc. Pap.* 4 (4), 61-8. <https://doi.org/10.12927/hcpap.2004.16855>.
- Marchildon, G.P. and B. Hutchison. 2016. "Primary care in Ontario, Canada: New proposals after 15 years of reform." *Health Policy* (New York). 120, 732-738. <https://doi.org/10.1016/j.healthpol.2016.04.010>.
- Martin-Misener, R., S.T. Wong, S. Johnston, S. Blackman, C. Scott, W. Hogg, F. Burge, A.M. Grool, J.L. Campbell and S. Wuite. 2019. "Regional variation in primary care improvement strategies and policy: Case studies that consider qualitative contextual data for performance measurement in three Canadian provinces." *BMJ Open* 9, 1-11. <https://doi.org/10.1136/bmjopen-2019-029622>.
- McWilliams, J.M., L.A. Hatfield, B.E. Landon, P. Hamed and M.E. Chernew. 2018. "Medicare Spending after 3 Years of the Medicare Shared Savings Program." *N. Engl. J. Med.* 379, 1139-1149. <https://doi.org/10.1056/NEJMsa1803388>.
- Motiwala, S., C. Flood, P. Coyte and A. Laporte. 2005. "The First Ministers' Accord on Health Renewal and the Future of Home Care in Canada." *Healthc. Q.* 8, 2-10. <https://doi.org/10.12927/hcq.2005.17232>.

- Nyweide, D.J., W. Lee, T.T. Cuerdon, H.H. Pham, M. Cox, R. Rajkumar and P.H. Conway. 2015. "Association of Pioneer Accountable Care Organizations vs Traditional Medicare Fee for Service With Spending, Utilization, and Patient Experience." *JAMA* Jun 2; 313, 2152–61. <https://doi.org/10.1001/jama.2015.4930>.
- Ontario Ministry of Health. 2019. *Ontario Health Teams: Guidance for Health Care Providers and Organizations*. Toronto.
- Ouayogodé, M.H., C.H. Colla and V.A. Lewis. 2017. "Determinants of success in Shared Savings Programs: An analysis of ACO and market characteristics." *Healthcare* 5, 53–61. <https://doi.org/https://doi.org/10.1016/j.hjdsi.2016.08.002>.
- Ravenscroft, E. 2005. "Access within a Fragmented Healthcare System: A Nurse's Perspective on Romanow." *Nurs. Leadersh.* 18, 0–0. <https://doi.org/10.12927/cjnl.2005.19031>.
- Schneider, E.C., A. Shah, M.M. Doty, R. Tikkanen, K. Fields and R.D. Williams. 2021. *Mirror, Mirror 2021. Reflecting Poorly. Health Care in the U.S. Compared to Other High-Income Countries*. The Commonwealth Fund. New York,
- Smith, P.C., A. Sagan, L. Siciliani, D. Panteli, M. Mckee, A. Soucat and J. Figueras, 2020. *Building on value-based healthcare: Towards a health system perspective*. Policy Brief 37, WHO Regional Office for Europe. Copenhagen.
- Starfield, B. 1994. "Is primary care essential?" *Lancet* Oct 22;344, 1129–33. [https://doi.org/10.1016/s0140-6736\(94\)90634-3](https://doi.org/10.1016/s0140-6736(94)90634-3).
- Starfield, B. 1998. *Primary Care: Balancing Health Needs, Services, and Technology*. Oxford University Press, New York.
- Steenhuis, S., J. Struijs, X. Koolman, J. Ket and E. Van Der Hijden. 2020. "Unraveling the Complexity in the Design and Implementation of Bundled Payments: A Scoping Review of Key Elements From a Payer's Perspective." *Milbank Q.* 98, 197–222. <https://doi.org/10.1111/1468-0009.12438>.
- Struijs, J.N. and C.A. Baan. 2011. "Integrating care through bundled payments—lessons from the Netherlands." *N. Engl. J. Med.* 364, 990–1. <https://doi.org/10.1056/NEJMp1011849>.
- Strumpf, E. 2020. "'You Can't Get There from Here': Is There a Future for Value-Based Healthcare in Canada?" *Healthc. Pap.* 19, 16–23. <https://doi.org/10.12927/hcpap.2020.26262>.
- Sutherland, J.M. and T.R. Crump. 2013. "Alternative level of care: Canada's hospital beds, the evidence and options." *Healthc. Policy* 9, 26–34.
- Sutherland, J.M., E. Hellsten and K. Yu. 2012. "Bundles: An opportunity to align incentives for continuing care in Canada?" *Health Policy* (New York). 107. <https://doi.org/10.1016/j.healthpol.2012.02.007>.

Thirukumaran, C.P. and M.B. Rosenthal. 2021. "The Triple Aim for Payment Reform in Joint Replacement Surgery: Quality, Spending, and Disparity Reduction." *JAMA*. <https://doi.org/10.1001/jama.2021.12070>.

Walker, J.D., K. Morris and J. Flood. 2009. "Alternative level of care in Canada: A summary." *Healthc. Q.* 12, 21-3.

Wong, J., S. Milroy, K. Sun, P. Iorio, J. Monakova, M. Seto, J. Wiersma and J.M. Sutherland. 2020. "Reallocating Cancer Surgery Payments for Alternate Level of Care in Ontario: What Are the Options?" *Healthc. Policy* 16, 41-54. <https://doi.org/10.12927/hcpol.2020.26354>.

Zuckerman, R.B., S.H. Sheingold, E.J. Orav, J. Ruhter and A.M. Epstein. 2016. "Readmissions, Observation, and the Hospital Readmissions Reduction Program." *N. Engl. J. Med.* 374, 1543-1551. <https://doi.org/10.1056/NEJMsa1513024>.

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